

## ABSTRACT

A novel method for labeling, detecting and quantifying molecules from multiple samples on the same array is described. The method uses at least one labeled sample to be  
5 mixed together with an unlabeled sample and allows competitive binding to an array. The array profiles various molecules from both samples at predetermined locations for detection and quantitative comparison. The signals detected for various molecules from labeled sample will provide indication of presence and relative amount of the same molecules in the unlabeled sample. A novel way for labeling sample for array analysis is also presented here  
10 using neutron bombardment as a means to label test molecules by making the atoms within these molecules radioactive or heavier without chemically modifying them.